REMARKS

Claims 1, 7-8, 11, 17-18 and 51-56 are pending in this application, of which claims 1 and 11 have been amended. Claims 2-6, 9-10, 12-16 and 19-50 have been canceled. Claims 51-56 are newly-added.

Claims 51 and 54 are supported on page 62, lines 21-25 of the specification. Claims 52 and 55 are supported on page 62, line 25 to page 63, line 1 of the specification. Claims 53 and 56 are supported on page 63, lines 2-13 of the specification.

Claims 1, 7, 8, 11, 17 and 18 stand rejected under 35 U.S.C. § 103(a) as unpatentable over **Sterett et al.** in combination with **Kudoh et al.** (both previously applied).

Applicants respectfully traverse this rejection.

Sterett et al. discloses a method and apparatus for the formation of a three-dimensional article in which droplets are deposited in a predetermined pattern at a predetermined rate onto a target to form the three-dimensional article.

Kudoh et al. discloses a thick film circuit defined by continuously feeding a paste, but fails to disclose intermittently jetting a molten metal against a construction member to define a row of metal grains as in the present invention. **Kudoh et al.** measures the distance from a given level to the surface of the substrate without contacting it to detect irregularities and controlling the nozzle position above the substrate according to the detected surface irregularities while the nozzle moves along the path of a circuit pattern so that the nozzle slit opening follows a path closely parallel with the surface contour of the substrate. Neither **Sterett et al.** nor **Kudoh et al.**

teaches, mentions or suggests any of the following features (a), (b) and (c) of claim 1, as amended, of the present invention:

(a) a data is associated with a reference coordinate system providing in the machine, and the data includes coordinates of points for determining arrangement of the electric circuit, a distance between any two of the points adjacent to each other, and a cross-sectional area of the electric circuit extended between the two points;

(b) the step of converting the data to a second set of data associated with the reference coordinate system provided in a construction member and the step of depositing the molten metal on a surface of the construction member to form the electric circuit on the construction member based on the second set of data;

(c) the deposited metal grains can overlap one another such that the electric circuit has the cross-sectional area stored in the second set of data between the two points.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

Claims 1 and 11 stand rejected under 35 U.S.C. § 103(a) as unpatentable over **Orme-Marmerelis et al.** or **JP '803** in combination with **Kudoh et al.** (all previously applied).

Applicants respectfully traverse this rejection.

Orme-Marmerelis et al. discloses that ultra-small satellite droplets of molten metal, generated from capillary break-up, are selectively directed to a predetermined location on a substrate. The satellite droplets can be placed in individual locations or can be overlapped to

form a conductive trace. However, **Orme-Marmerelis et al.** fail to disclose any of the features (a), (b) and (c) of claim 1, as amended, of the instant application as listed above. **Orme-Marmerelis et al.** also specifically fails to disclose feature (c), that an electric circuit is formed to have a cross-sectional area stored in a second set of data between the two points.

JP '803 discloses a three-dimensional body as shown in FIGS. 4, 6 and 7, in which molten metal is spouted from a nozzle to form droplets that can be applied to a substrate to form electric circuits defined in a three-dimensional body by arranging electrically conductive and insulating droplets, each droplet determined to be positioned as an element of the body. **JP '803** fails to disclose any of the above-mentioned features (a), (b) and (c) of claim 1, as amended, of the instant application.

Thus, the 35 U.S.C. § 103(a) rejection should be withdrawn.

In view of the aforementioned amendments and accompanying remarks, claims 1, 7-8, 11, 17-18 and 51-56, as amended, are in condition for allowance, which action, at an early date, is requested.

If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicants' undersigned attorney at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

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